

What is claimed is:

1. The invention provides an apparatus for processing textile fibre material comprising

5 a fibre-processing machine;

at least one spinning preparation machine;

a pneumatic fibre-transporting line for transporting fibre material pneumatically from the fibre-processing machine to a said spinning preparation machine and

10 comprising at least an upstream line portion, a downstream line portion and a fibre material feed fan between said upstream and downstream line portions;

a differential pressure measurement device for measuring the pressure difference between said upstream line portion  
15 and said downstream line portion;

a rotational speed measurement device for determining the speed of rotation of the fan; and

a control device comprising a storage device for storing characteristic curves describing the dependence of  
20 volumetric air flow in the downstream line portion upon said pressure difference;

wherein the control device is arranged to determine from the measured pressure difference and the determined speed of rotation the actual volumetric air flow and to effect  
25 adjustment of the apparatus towards a desired value of the volumetric air flow.

2. An apparatus according to claim 1, comprising as spinning preparation machine a carding machine or cleaning machine having a fibre feed shaft, the fibre feed shaft  
5 being in communication with the transport line.

3. An apparatus according to claim 1, in which the control device can effect adjustment of the speed of rotation of the fan.

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4. An apparatus according to claim 1, in which the fan is a radial fan.

5. An apparatus according to claim 1, which comprises a  
15 measurement element for measuring the differential pressure across the fan.

6. An apparatus according to claim 1, comprising a writable and readable memory containing the characteristic  
20 curve set.

7. An apparatus according to claim 6, in which there is a computer unit incorporating the control device and the writable and readable memory.

8. An apparatus according to claim 1, in which the control device includes a desired value memory for desired values of the volumetric air flow.

5 9. An apparatus according to claim 1, comprising a drive motor for the feed fan, the rotational speed device being associated with the drive motor.

10 10. An apparatus according to claim 1, in which the rotational speed measurement device comprises a frequency converter.

15 11. An apparatus according to claim 1, in which the rotational speed measurement device comprises a tachogenerator.

12. An apparatus according to claim 1, which further comprises a speed of rotation actuating element for adjusting the speed of the fan.

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13. An apparatus according to claim 12, in which the differential pressure measured device, the rotational speed measurement device and the speed of rotation actuation device are in communication with the control device.

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14. An apparatus according to claim 1, further comprising a volumetric flow measurement element, which is in communication with the control device.

5 15. An apparatus according to claim 1, comprising a plurality of spinning preparation machines.

16. An apparatus for controlling the volumetric air flow in a transport line for transporting pneumatically fibre  
10 flocks, comprising a feed fan located in said transport line, an upstream transport line portion upstream of the fan and a downstream transport line portion downstream of the fan, and a pressure difference measurement device for determining a pressure differential across the fan, wherein  
15 a control device is provided for storing characteristic curves describing the dependence of volumetric air flow in said downstream transport line portion upon the said pressure differential and the control device is arranged to determine an actual value for the volumetric flow rate from  
20 a known value for the rotational speed of the fan and a measured value of the pressure differential and in the event of departure of the actual value of the volumetric flow rate from a desired value for the volumetric flow rate to adjust the rotational speed of the fan so as to cause  
25 the volumetric flow rate to be displaced towards the desired value thereof.

17. An apparatus according to claim 16, which comprises a rotational speed measurement device for determining the rotational speed of the fan to obtain said known value of the rotational speed.